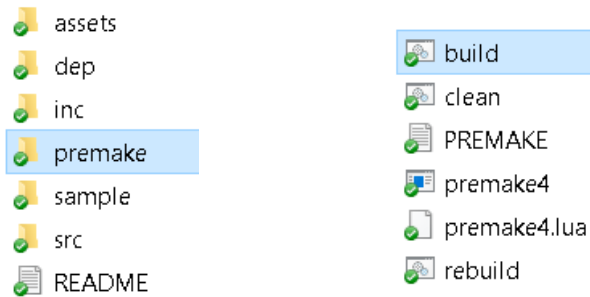# CS 300 - Project #1
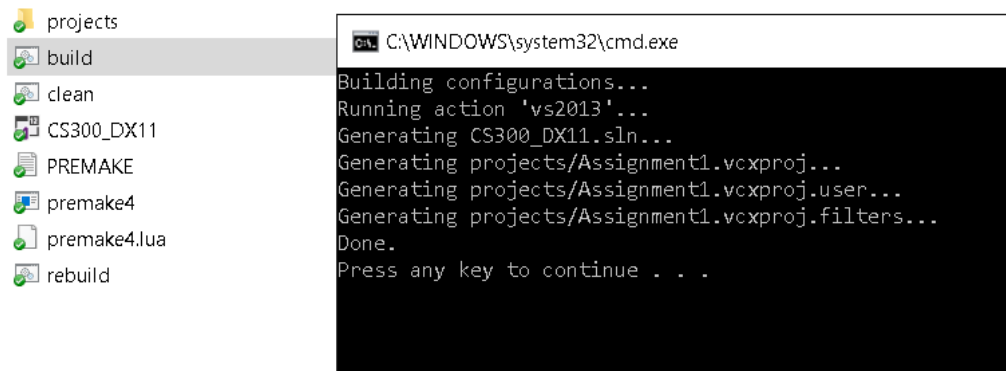# Blinn-Phong Lighting Illumination

Meh-Renderer User guide

## 1)   Building the framework:

Click on the premake folder, I included the folder on my submission because I modified it. This is my own renderer with DirectX11.

After running the batch file, you may run the solution file for visual studio 2013 and build it the solution. I already tested on DigiPen computers, this solution works on Windows 7 and Windows 10.
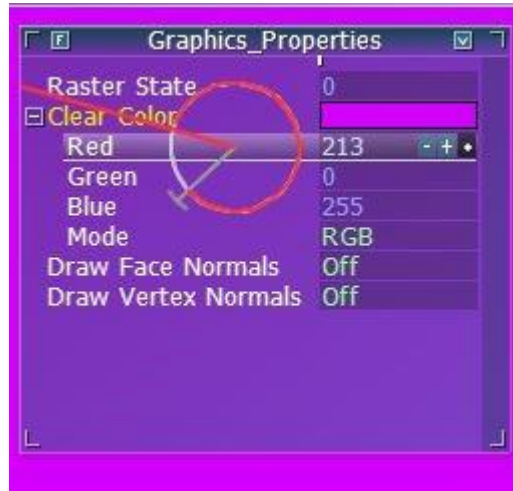
*** *Note: it takes a bit long to build, not 40 seconds or anything like that but a bit long.*

2)   Running the framework
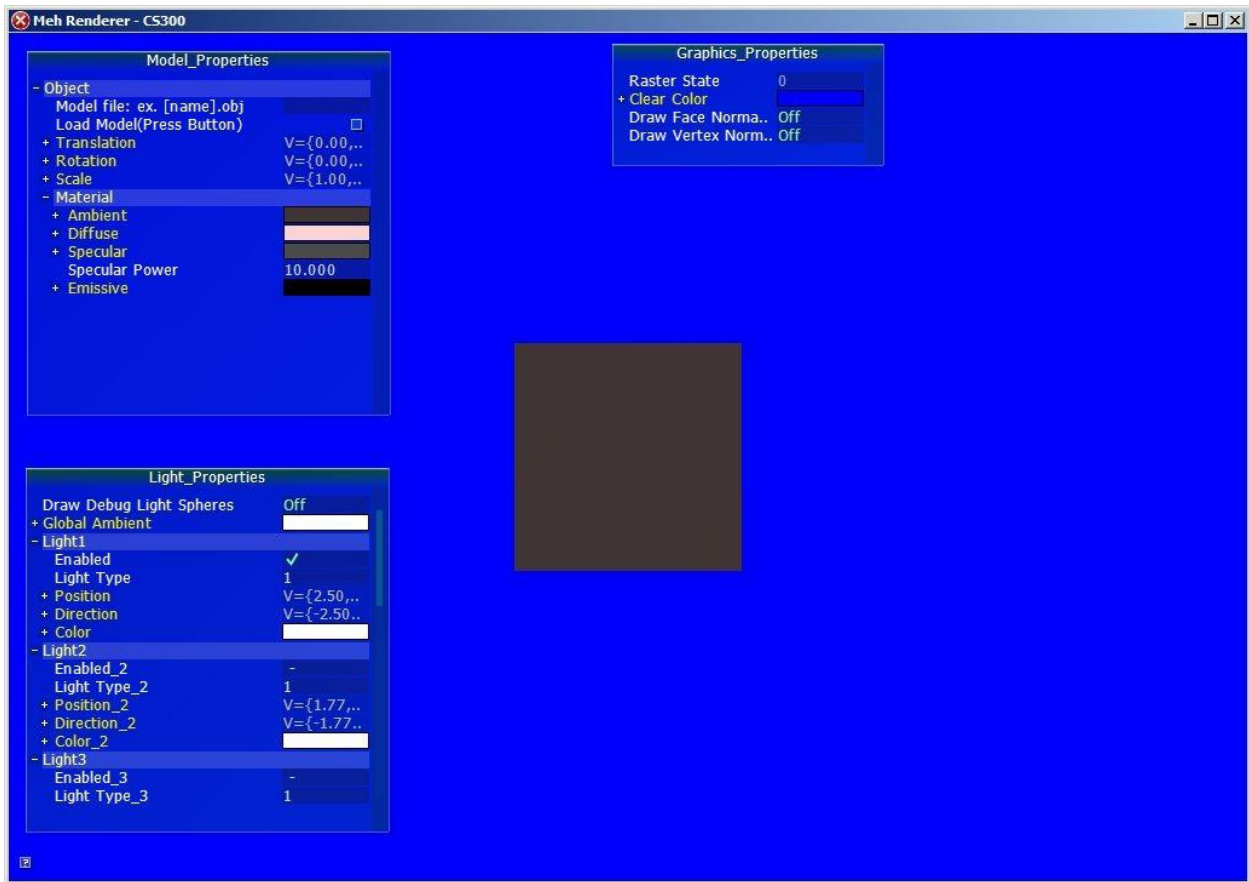
Using AntTweakBar, I made 3 major bars, the graphics properties for the renderer, the model properties and the light properties. I wanted to organize all of the adjustable settings accordingly.

3)   Graphics Properties:

I've placed some basic changes available which are Render State, Clear Color and draing vertex or face normals.

Clear Color: Just the back color used by DX11 when swaping buffers.

Raster States: 0
- No culling
1 - No culling, wireframe mode - **will run a little slower with the horse or the bunny*
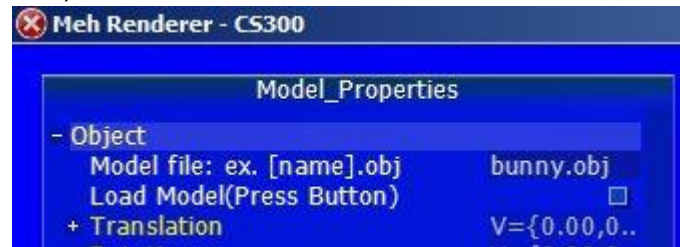
2 - back face culling
3 - front face culling

Draw Face Normals: Render the lines refering to the face normals.
Draw Vertex Normals: Render the lines refering to the vertex normals.

4) Loading a model file:

To load a new mesh, write down the file name including the .obj extension and then click on
"Load Model(Press Button)".

***Available models: horse.obj, bunny.obj and box.obj. file fails to load then it just defaults to a
constant box.*

***Please Read: When loading the bunny.obj or the horse.obj files, you have to increase the
scale to 16 in order to fully view the model. You may also modify the Z value of the
transform.***

5) Model properties:
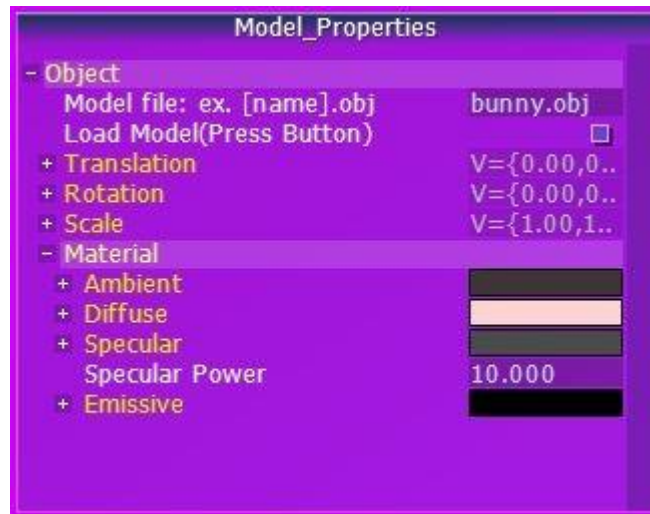
You can modify the object's position, rotation and translation. Also you can change all of the
PhongMaterial properties(Ambient, Diffuse, Specular, Specular Power and Emissive).

6) Light Properties

The light properties bar has a bunch of adjustable settings for all 8 lights.

Draw Debug Light Spheres: Toggle this setting of the renderer, if on then it'll draw a sphere for each light indicating the position of the light, like the picture below:

Position - You may change the position of each light separately.

Direction - You may change the direction of the light.

Color - light color

Enabled : toggle each light between on or off

Light Types:
0 - Directional Light
1 - Point Light
2 - Spot Light